

### Amendments to the Claims

The applicants have amended the preamble to Claim 1 to correct indefinite language in that claim, as requested by the Examiner. The applicants have also cancelled Claim 42, as requested by the Examiner.

In order to overcome the rejection by the Examiner, the applicants have amended Claims 1 and 30 to define the primary aluminosilicate crystallite size as being "from about 0.01  $\mu\text{m}$  to less than 0.1  $\mu\text{m}$ ." (Emphasis supplied.) Bases for this amendment are contained on page 4, lines 4 - 8 and 13 - 15. Specifically, on lines 13 - 14 of page 4, it states "[i]t is important that the primary crystallites have an average diameter of at least 0.01  $\mu\text{m}$  and less than 0.1  $\mu\text{m}$ ." (Emphasis supplied.) The required size of these crystallites is also disclosed on application page 6, lines 11 - 17 and on page 9, lines 5 - 7, where it states "[i]t is essential that the reaction be interrupted, when the obtained primary crystallites have an average diameter of at least 0.01  $\mu\text{m}$  and less than 0.1  $\mu\text{m}$ , preferably in the range from 0.01 to 0.06  $\mu\text{m}$ , especially from 0.015 to 0.05  $\mu\text{m}$ ." Further support for this limitation is contained in the Examples, wherein the performance of catalyst made with crystallites of a size larger than the claimed crystallites was compared to the performance of catalyst made with crystallites of the claimed smaller size. (See particularly Table II on page 19.)

No new subject matter is introduced by any of these amendments.

## **Discussion**

The USPTO requested that the specification be reviewed and any errors corrected. The applicants do not believe that there are any additional errors in the application.

## **Claim Objections**

The USPTO objected to Claim 42. In response thereto, the applicants cancelled that claim.

## **Claim Rejections under 35 USC §112**

The USPTO rejected Claims 1 and 20 - 41 under 35 USC §112, as being indefinite. The language in the claims which was asserted to be indefinite has been deleted and the claims have been appropriately revised. The applicants believe the claims, as now written, are not indefinite.

## **Rejections under 35 USC §103**

The USPTO rejected all claims of the application based on the translation of UK 0 448 000. The applicants respectfully traverse this rejection.

The USPTO asserts that UK 0 448 000 discloses a catalyst composition that is similar to the catalyst, as claimed. The USPTO acknowledges that there is a difference in the average diameter of the crystallites that are disclosed in the application.

Notwithstanding, the USPTO asserts that because the claims, as filed, asserted that the size of the crystallites could be up to "about 0.1  $\mu\text{m}$ ", there was an overlap between the claim coverage and the disclosure in the reference.

The crystallite size disclosed in UK 0 448 000 is from 0.1 microns to at most 0.9 microns. The claims of the application, as now amended, require that the crystallite size be from 0.01 to "**less than**" 0.1 micron. By this amendment the applicants have eliminated any overlap in the size of the crystals between the reference cited and the claims of the application.

The applicants also assert that this difference in size has a dramatic impact on the performance of the claimed catalyst noting particularly the results shown in Table II, where the performance of the catalyst of Example 1, with a crystallite size within the claimed range, far surpassed that of the performance of the catalyst of Comparative Examples 1 and 2, with a crystallite size outside of the claimed range. The performance of the catalyst of Example 1 surpassed that of the catalyst of Comparative Example 1 by almost every measurement.

In contrast to the size of the crystallites of the catalyst of the invention, as now claimed, the catalyst of UK 0 448 000 is required to have an average diameter "of at least 0.1  $\mu\text{m}$  and at most 0.9  $\mu\text{m}$ " (page 6, lines 14 - 15). In fact, the UK 0 448 000 reference teaches away from the claimed crystallites size where it

states that "[i]f the average diameter is less than 0.1  $\mu\text{m}$ , the lifetime of the catalyst is reduced considerably;..." (page 6, lines 29 - 31). All crystallites now claimed are "less than 0.1  $\mu\text{m}$ " in size. Note also that the crystallite size of the crystals of the Examples disclosed in UK 0 448 000 was 0.3  $\mu\text{m}$ , as shown on page 19. This is the same size as the crystallites of Comparative Example 1 of the application.

The importance of this narrow range for the crystallite size and that it be less than 0.1  $\mu\text{m}$  was discussed in the specification of the application at page 4, lines 4 - 9 and 14 - 15, page 6, lines 11 - 17, page 9, lines 5 - 7, and the Abstract, lines 1 - 3.

The sole reference cited against the claims of the application, UK 0 448 000, failed to recognize the critical nature of the crystallite size being less than 0.1  $\mu\text{m}$ . In fact, the UK reference teaches away from this size for the crystal of its catalyst by stating "if the average diameter is less than 0.1  $\mu\text{m}$ , the lifetime of the catalyst is reduced considerably;..." (page 6, lines 29 - 31).

The applicants assert that by their amendments to the claims, they have overcome all rejections of the claims of the application.

**CONCLUSION**

The applicants request that all claims of the application be allowed and a Notice of Allowance be issued. If there are any questions, please contact applicants' counsel.

Respectfully submitted,



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**CERTIFICATE OF SERVICE**

I hereby certify that this correspondence and the documents referred to as attached therein are being deposited with the United States Postal Service as First Class Mail, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Dolly Hart

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